WHAT IS CLAIMED IS:

1. An automatic transmission which has at least six selectable forward speeds, the automatic transmission comprising:

a reduction planetary gearset which reduces speed of rotation input from an engine;

a plurality of planetary gearsets disposed behind the reduction planetary gearset, the plurality of planetary gearsets comprising a ring gear as an input member which inputs reduced rotation from the reduction planetary gearset, individual planetary gearsets respectively comprising a single set of pinion gears;

a plurality of clutches which are disposed radially beyond the plurality of planetary gearsets; and

a plurality of brakes which are disposed radially beyond the plurality of clutches, the forward speeds of the transmission being selectable through a combination of engagement and disengagement of the plurality of clutches and the plurality of brakes, each brake overlapping with a corresponding clutch in the axial direction.

2. The automatic transmission as claimed in claim 1, wherein the plurality of brakes are disposed axially in a row, each brake of which respectively comprising a brake pack.

3. The automatic transmission as claimed in claim 2, wherein each brake pack overlaps with a corresponding clutch of the plurality of clutches at least partially in the axial direction.

4. The automatic transmission as claimed in claim 2, wherein each clutch comprises a clutch pack, each brake pack overlapping with a corresponding clutch pack at least partially in the axial direction.

5. The automatic transmission as claimed in claim 2, wherein a brake pack of one brake greatly overlaps in the axial direction with a corresponding clutch of the plurality of clutches, and a brake pack of another brake overlaps in the axial direction at least partially with a corresponding clutch of the plurality of clutches.

6. The automatic transmission as claimed in claim 1, wherein the plurality of brakes comprises two brakes which respectively overlap with a corresponding clutch in the axial direction.

7. The automatic transmission as claimed in claim 6, wherein each of the two brakes respectively comprises a brake pack which overlaps with a corresponding clutch of the plurality of clutches in the axial direction.

8. The automatic transmission as claimed in claim 7, wherein at least one brake pack of one of the two brakes overlaps greatly with a corresponding clutch.

9. The automatic transmission as claimed in claim 1, wherein the plurality of planetary gearsets further comprises an output member which is disposed outside an outer circumference of

the plurality of clutches and inside an inner circumference of the plurality of brakes.

10. The automatic transmission as claimed in claim 1, wherein the plurality of planetary gearsets further comprises an output drum as an output member which is disposed radially beyond the plurality of clutches and radially within the plurality of brakes.

11. The automatic transmission as claimed in claim 10, wherein the plurality of planetary gearsets further comprises a double-sun-gear planetary gearset.

12. An automatic transmission which has at least six selectable forward speeds, the automatic transmission comprising:

a reduction planetary gearset;

a rear planetary gear train disposed behind the reduction planetary gearset, the rear planetary gear train comprising

a first rear planetary gearset which is disposed behind the reduction planetary gearset to receive a reduced rotation therefrom, the first rear planetary gearset comprising a sun gear, a single set of pinion gears meshing with the sun gear, and a ring gear meshing with the single set of pinion gears, the ring gear being an input member which inputs the reduced rotation from the reduction planetary gearset, and

a second rear planetary gearset which is disposed behind the first rear planetary gearset, the second rear

planetary gearset comprising a single set of pinion gears;

a plurality of clutches disposed in a row around the rear planetary gear train; and

a plurality of brakes disposed in a row around the plurality of clutches, the plurality of brakes comprising a first brake which overlaps in the axial direction with a first clutch of the plurality of clutches, and a second brake which overlaps in the axial direction with a second clutch of the plurality of clutches.

13. The automatic transmission as claimed in claim 12, wherein the first brake and the second brake of the plurality of brakes each comprises a set of plates, a set of plates of the first brake overlapping in the axial direction with the first clutch of the plurality of clutches, a set of plates of the second brake overlapping in the axial direction with the second clutch of the plurality of clutches.

14. The automatic transmission as claimed in claim 13, wherein a set of plates of the first brake greatly overlap with the first clutch, and a set of plates of the second brake overlap at least partially with the second clutch.

15. The automatic transmission as claimed in claim 12, wherein the rear planetary gear train further comprises a drum which is disposed between the plurality of clutches and the plurality of brakes, the drum being joined to an output gear which meshes with a counter gear.

16. An automatic transmission comprising:

an input member which inputs an engine rotation;

a planetary gear train to receive the engine rotation from the input member, the planetary gear train comprising

a first planetary gearset acting as a reduction planetary gearset which inputs the engine rotation from the input member,

a second planetary gearset disposed behind the first planetary gearset, the second planetary gearset comprising a sun gear, planetary pinions which mesh with the sun gear, a pinion carrier which supports the planetary pinions to be freely rotatable, and a ring gear which meshes with the planetary pinions, the ring gear acting as a planetary-gear-train input member which inputs reduced rotation from the first planetary gearset, and

a third planetary gearset disposed behind the second planetary gearset, the third planetary gearset comprising two sun gears, common planetary pinions which mesh with the two sun gears, a pinion carrier which supports the planetary pinions to be freely rotatable, and a ring gear which meshes with the planetary pinions;

an output member disposed coaxially with the input member, the output member receiving a rotation from the planetary gear train; and

three clutches and two brakes, at least six forward speeds and reverse speed being selectable by selective engagement and disengagement of the three clutches and the two brakes, two clutches of the three clutches being disposed around the

planetary gear train, the two brakes being disposed around the two clutches, one clutch of the two clutches and one brake of the two brakes overlapping in the axial direction at least partially, the other clutch of the two clutches and the other brake of the two brakes overlapping in the axial direction at least partially.

17. The automatic transmission as claimed in claim 16, wherein the two clutches respectively comprise a set of plates, and the two brakes respectively comprise a set of plates, the set of plates of one brake overlapping in the axial direction at least partially with the set of plates of one clutch, the set of plates of the other brake overlapping in the axial direction at least partially with the set of plates of the other clutch.

18. The automatic transmission as claimed in claim 16, wherein the planetary gear train further comprises a planetary-gear-train output member which is disposed outside respective outer circumferences of the two clutches and inside respective inner circumferences of the two brakes.

19. The automatic transmission as claimed in claim 16, wherein the planetary gear train further comprises an output drum to transmit rotation of the planetary gear train to the output member, the output drum being disposed between the two clutches and the two brakes.